Training through the ages

Cathy Underhill

Lifelong learning is increasingly regarded as important to the health of the Canadian economy (Bélanger and Tuijnman 1997). Workplace developments such as rapid technological change, higher educational requirements, an increased emphasis on skill-based knowledge, and greater dependence on computers have led to a need for training entry-level workers as well as retraining older ones.

At the same time, Canada's population continues to age as the baby boomers move towards retirement (the oldest turn 60 in 2006). With the median age of retirement at 61 in 2005, the possibility of their impending exit from the labour force increases concerns for the supply of skilled labour. Facilitating later life learning could extend the contribution of older workers beyond the traditional age of retirement (Morissette, Schellenberg and Silver 2004).

At the workplace level, training is influenced by the degree of employer support given to employees: paying for training (directly or through reimbursement), allowing flexible hours, providing the course or program, or providing transportation to and from the training site.

In 2002, approximately 1 in 3 adults aged 25 to 64—five million people (Table 1)—participated in formal job-related training (see *Data source and definitions*). Using the 2003 Adult Education and Training Survey (AETS), this article compares the job-related training rate of older workers (55 to 64) with that of younger workers (25 to 34). Personal and job-related characteristics associated with training are examined for both groups, as are employer support, self-directed learning, barriers faced by older and younger employees, and the objectives and outcomes of training.

Cathy Underhill is with the Science, Innovation and Electronic Information Division. She can be reached at 613-951-6023 or perspectives@statcan.ca.

Table 1 Job-related training, 2002

	Workers		Trainees		Job-related training
	'000	%	'000	%	%
25 to 64	**13,913**	**100.0**	**4,794**	**100.0**	**34.5**
25 to 34	3,734	26.8	1,531	31.9	41.0
35 to 44	4,443	31.9	1,529	31.9	34.4
45 to 54	3,887	27.9	1,310	27.3	33.7
55 to 64	1,849	13.3	424	8.9	22.9

Source: Statistics Canada, Adult Education and Training Survey, 2003

Logistic regression was used to determine the degree to which selected personal and job-related factors were related to the likelihood of participation in job-related training (see *Logistic regression*).[1] Models were run separately for employees aged 25 to 34 and 55 to 64. The factors selected were sex, education, household income, province, occupation, firm size, industry, employee or self-employed, sector (private versus public), and work schedule (full-time versus part-time). Most of the independent variables were selected on the basis of previous research on job-related training behaviour.

Older women more likely than older men to engage in job-related training

Overall, women had slightly higher rates of job-related training than men in 2002. Even after holding other personal and job-related factors constant, the rate for women aged 55 to 64 was significantly higher (1.4 times) than for men the same age. In the 25-to-34 age group, men and women were equally likely to participate in training (Table 2).

Data source and definitions

The 2003 **Adult Education and Training Survey** was conducted in February and March 2003 by Statistics Canada in partnership with Human Resources Development Canada. Some 34,000 adults aged 25 and over were asked about their training and education activities in 2002, including the number and duration of training activities, the type of training, and the involvement of the employer.

This article focuses primarily on two age groups: 25 to 34 and 55 to 64. Respondents were classified as working if they were employed or self-employed at some point during the 2002 reference year.

Participants are working individuals who participated in at least one formal job-related training activity during 2002.

Formal job-related training refers to courses or programs related to a current or future job. These had to follow a structured plan and lead to some form of recognition, certification, diploma or degree.

Employer support consists of one or more of the following: providing the training, paying for the training (either directly or by reimbursing the employee), allowing a flexible work schedule to accommodate training, or providing transportation to and from the training location.

A **program** is a series of courses leading to a degree, diploma or certificate, whereas **courses** include seminars, workshops and conferences as well as courses not part of a credit program.

Courses and programs were classified using the **Classification of Instructional Programs, Canada** (CIP Canada 2000), based on field of study. *Health, recreation and fitness* includes health professions and related clinical sciences; dental, medical and veterinary residency programs; and parks, recreation, leisure and fitness studies. *Personal improvement and leisure* includes basic skills, citizenship activities, health-related knowledge and skills, interpersonal and social skills, leisure and recreational activities, and personal awareness and self-improvement.

Self-directed learning or **informal job-related training** does not lead to formal qualification or certification, and generally does not rely on structured guidelines. It must, however, be undertaken by the participant with the intention of developing job-related skills or knowledge. Respondents were asked if they had done any of: seeking advice from someone knowledgeable, using the Internet or other software, observing someone performing a task, consulting books or manuals, or teaching themselves different ways of doing certain tasks. In contrast to formal job-related training, respondents were asked if they had engaged in any of these activities over the preceding four-week period, whereas formal job-related training questions referred to the entire year.

Managerial and professional occupations include not only senior management occupations; managers in retail trade, food and accommodation services; and other managers, but also professional occupations in business and finance; financial, secretarial and administrative occupations; natural and applied sciences and related occupations; professional occupations in health; nurse supervisors and registered nurses; occupations in the social sciences, government services and religion; teachers and professors; and occupations in art, culture, recreation and sport.

Goods-producing industries comprise agriculture; forestry, fishing, mining, oil and gas; utilities; construction; and manufacturing. **Service** industries comprise trade; transportation; finance, insurance, real estate, and leasing; professional, scientific, and technical services; education; health care and social assistance; information, culture and recreation; accommodation and food services; and public administration.

Given the complex nature of the survey design, bootstrap procedures were used to derive the variances for odds ratios and percentages.

The highly educated get more training

Adult education, and in particular job-related training, appears to be accessed primarily by those who are already well-educated (SC–HRDC 2001).[2] In all age groups, higher levels of education corresponded with greater participation in formal job-related training.[3] For example, 55 to 64 year-olds with a university degree participated at nearly three times the rate of those with a high school diploma or less (37% versus 13%). This makes sense in that individuals with low initial levels of education are more likely to be employed in low-paying jobs, where investment in training is likely minimal. However, 55 to 64 year-olds with a university education still took less job-related training in 2002 than their younger counterparts aged 25 to

Logistic regression

A logistic regression model is used to investigate the relationship between a discrete outcome and a set of explanatory variables. It allows the effect of one factor to be examined, while holding all others constant.

In this paper, logistic regression models were used to isolate the effect of various personal and job-related factors on the likelihood of participation in, and the likelihood of employer support for, job-related training.

Young adults (25 to 34) and older adults (55 to 64) were modelled separately for likelihood of job-related training. One model was used for all 25 to 64 year-old employees who had engaged in job-related training to examine employer support.

Responses of 'don't know/refused' were excluded.

Table 2 Factors associated with job-related training for both older and younger workers

	Job-related training			Odds ratios	
	25-64	25-34	55-64	25-34	55-64
	%				
Men (ref)	32.3	38.3	21.1	1.0	1.0
Women	37.0	44.1	25.3	1.0	1.4*
Education					
High school diploma or less	17.8	20.2	12.5	0.4**	0.5**
Postsecondary non-university (ref)	38.0	42.9	26.5	1.0	1.0
University	51.3	57.2	36.7	1.5**	1.2
Household income					
Less than $30,000	24.1	35.7	12.9	1.0	0.6*
$30,000 to $59,999 (ref)	31.2	38.7	22.4	1.0	1.0
$60,000 and over	45.0	51.4	33.7	1.4**	1.4
Province					
Newfoundland and Labrador	28.8	29.1	F	0.6*	F
Prince Edward Island	30.6	32.2	F	0.7	F
Nova Scotia	37.4	43.9	25.4	1.1	1.0
New Brunswick	34.4	43.2	F	1.2	F
Quebec	31.6	41.2	19.2	1.0	0.6*
Ontario	34.3	40.1	21.4	0.9	0.6*
Manitoba	38.4	48.0	26.9	1.5*	0.9
Saskatchewan	37.2	45.0	23.1	1.4	0.7
Alberta (ref)	34.6	38.7	27.7	1.0	1.0
British Columbia	38.6	43.4	29.0	1.2	0.9
Occupation					
Managerial, professional	46.2	53.2	32.0	1.3*	1.2
Clerical, sales, service (ref)	29.2	35.4	20.1	1.0	1.0
Blue-collar	22.5	28.3	14.1	1.0	1.2
Firm size					
Less than 20	24.9	29.8	13.2E	0.6**	0.7
20 to 99	32.0	33.5	26.4	0.7*	1.3
100 to 500 (ref)	37.1	45.2	26.0	1.0	1.0
Over 500	43.6	48.6	34.0	1.0	1.5*
Industry					
Goods-producing (ref)	25.1	31.8	14.1	1.0	1.0
Service-producing	38.1	43.9	27.0	1.1	1.7*
Self-employed					
Yes (ref)	28.6	33.5	20.2	1.0	1.0
No	35.9	42.2	24.1	1.6**	1.0
Sector					
Private (ref)	28.1	35.6	17.2	1.0	1.0
Public	50.1	54.8	39.0	1.4**	1.6**
Work schedule					
Full-time	36.4	41.5	26.2	1.0	1.8**
Part-time (ref)	31.3	37.5	20.5	1.0	1.0

* Significantly different from reference group at the 5% level.
** Significantly different from reference group at the 1% level.
Note: Odds relative to reference group (ref).
Source: Statistics Canada, Adult Education and Training Survey, 2003

34 (37% versus 57%). One possibility is that older employees may be choosing to forgo training for personal reasons. Being close to retirement, for example, may cause them to be less interested in training related to career advancement.

With various personal and job-related characteristics held constant, lower levels of education were significantly associated with decreased odds of job-related training for both age groups. Those with a high school diploma or less were half as likely to participate as those with some postsecondary non-university education. However, a different story was evident for those with university education. Among those 25 to 34, the odds of taking training increased significantly, whereas for those aged 55 to 64, they did not.

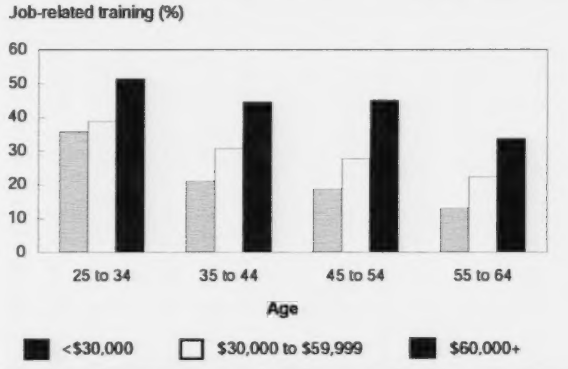
Higher household income associated with higher rates of job-related training

As with education, higher household income generally tends to be associated with higher rates of job-related training.[4] Training, especially when not supported by an employer, involves costs, either directly for tuition or books, or indirectly in forgone earnings. Higher income may therefore enable some workers to participate in training. When other characteristics are held constant, a higher household income significantly increased the odds of participation for both age groups. Conversely, the odds were significantly decreased for older but not younger employees with lower household income, relative to the reference group (medium income). Income appears to be related to job-related training only after a certain point for younger employees. They may

view training as a means of achieving a higher income, whereas this is unlikely to be a motivation for older employees given their proximity to retirement. The link between training and income likely goes in both directions; that is, while training may lead to higher incomes, higher incomes also allow employees to take advantage of training opportunities.

Although the training participation rates of 55 to 64 year-olds increased with income, their rates were consistently lower than all other age groups. For example, while the rate was around 50% for the three younger age groups earning $60,000 or more, it was only 34% for those 55 to 64 (Chart A).

Chart A Higher household income levels not as much related to job-related training for older employees as for younger ones.



Source: Statistics Canada, Adult Education and Training Survey, 2003

Provincial differences in job-related training

Province of residence was significantly related to job-related training for both younger and older employees. Among younger ones, those in Newfoundland and Labrador were less likely than those in Alberta (reference group) to engage in training (.06), while those in Manitoba were 1.5 times more likely. As for older workers, those in Quebec and Ontario were less likely than those in Alberta to take training. The differences for older workers may be partly explained by differences in median retirement age. During the period 2000 to 2004, the median in Alberta was 63.7 compared with 61.4 and 59.9 in Ontario and Quebec respectively. Alberta's higher median retirement age suggests that older workers there may have a longer-term perspective on job-related training.

Job characteristics affect the likelihood of training

For both younger and older workers, being in the public sector as opposed to the private sector significantly increased the odds of job-related training (1.4 and 1.6 times respectively).

Occupation was significantly related to being involved in training for younger employees, but not for older ones. Employees aged 25 to 34 in a professional or managerial occupation were 1.3 times more likely to take training than those in clerical, sales or service occupations.

Firm size was also clearly a factor. Smaller companies may have difficulty sparing resources for training when meeting the bottom line is a priority (Leckie et al. 2001). On the other hand, large firms (more than 500 employees) are more likely to be in a position to provide support. Being employed in a smaller firm (less than 20, or 20 to 99 employees) significantly lowered the odds of job-related training (0.6 and 0.7 respectively) for younger workers relative to a medium-sized firm; however, no relationship was apparent for older workers. On the other hand, employment in a larger firm (more than 500 employees) significantly increased the odds of job-related training for older workers, but made no difference for younger workers.

Industry was a significant factor for older employees, along with work schedule. Employment in a service industry rather than a goods-producing one significantly increased their likelihood of participation, while not being significantly related for younger workers. Similarly, working full time rather than part time increased the odds of participation for older employees, but had no effect for 25 to 34 year-olds. Self-employment, on the other hand, had no effect for older workers but significantly affected the likelihood of participation for younger workers.

Perhaps surprisingly, union membership was not a significant factor in job-related training. A previous study found that unions had only weak direct effects on training incidence and funding. However, unions may exert positive indirect effects by encouraging employer funding of training, which could then lead to increased job stability (Gilbert 2003).

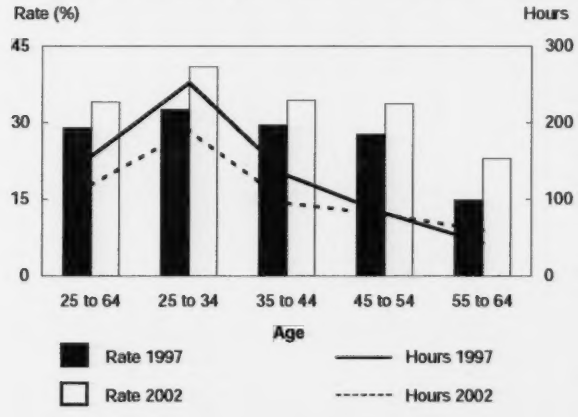
Older adults spend less time in training

Formal job-related training can take the form of either individual courses or full programs of study leading to a degree, diploma or certificate. Courses are not necessarily undertaken for credit reasons and can include seminars, workshops or conferences. The majority of employed adults engaged in job-related training in 2002 took courses as opposed to programs (76% versus 15%). Less than 10% took both.

Overall, participants averaged 118 hours of job-related training in 2002, compared with 156 hours in 1997 (Chart B).[5] This drop is attributable mainly to trainees aged 25 to 44, as the intensity of training for those aged 55 to 64 increased by nearly 40%, from 43 to 60 hours. Major differences were apparent by age. Compared with 55 to 64 year-old trainees, those 25 to 34 spend triple the time in job-related training in 2002 (190 versus 60 hours). This makes sense given that older employees have had longer to accumulate not only general work skills but also job-specific skills. In addition, many older employees may be winding down before retirement.

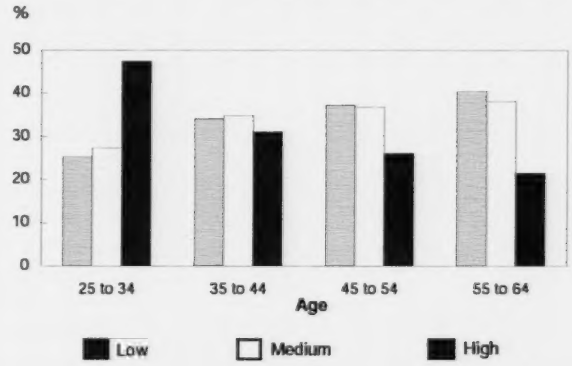
Another approach to training intensity is to divide training hours into three roughly equal categories: high, medium, and low (Chart C).[6] Less than one-quarter of 55 to 64 year-olds (21%) were in the high-intensity category (more than 11 days) in 2002, compared with nearly half (47%) of younger participants.

Chart B Older participants increased both their rate and hours of training, younger ones only their rate



Source: Statistics Canada, Adult Education and Training Survey, 2003

Chart C A greater proportion of younger workers are in the high-intensity training category



Source: Statistics Canada, Adult Education and Training Survey, 2003

Types of training differed for older and younger adults

The participation rates of older and younger adults varied depending on the type of training (Table 3). For all age groups, the most common was in business, management, and public administration and related fields (close to 30%). Older workers were more likely than younger ones to take training in math, computer, and information sciences (19% versus 13%), perhaps indicating more of a need to upgrade computer skills. Older workers also trained more often in health, recreation and fitness (22% versus 15%). On the other hand, a larger proportion of younger participants reported being involved in job-related personal improvement and leisure training (17% versus 11%).

Improving performance main motivator for all ages

Individuals may have multiple objectives for taking job-related training. The primary motivation for the vast majority was to do their job better (Chart D). This was particularly so for older workers (84% compared with 71% for younger employees). Different

Table 3 Participation rate in training activities

	25 to 64	25 to 34	35 to 44	45 to 54	55 to 64
			%		
Business, management and public administration	30.4	27.4	32.0	32.4	29.6
Mathematics, computer and information sciences	16.0	12.7	15.5	19.6	18.5
Health, recreation and fitness	15.5	14.9	13.6	16.0	22.3
Personal improvement and leisure	15.4	16.6	16.2	14.4	11.0
Architecture and engineering	14.2	14.9	15.0	12.2	14.6

Note: Participants could report more than one type of training activity.
Source: Statistics Canada, Adult Education and Training Survey, 2003

objectives highlight different career stages. For example, the second most common motivation for older participants was to avoid losing their job (14%), whereas for younger ones, it was to help them find or change jobs (33%). Although increasing income was the third most cited objective for both, it was much more important for 25 to 34 year-olds—nearly 3 in 10 compared with 1 in 10 aged 55 to 64.

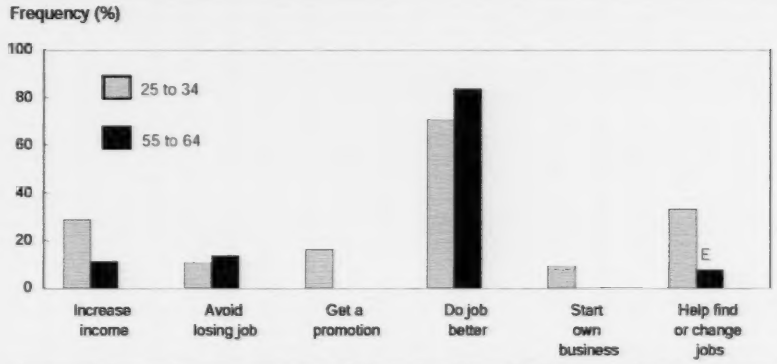
To a large degree, stated training objectives and outcomes corresponded, particularly for older participants. For example, 91% of 55 to 64 year-olds who wanted to do their job better achieved this objective, compared with 86% of those aged 25 to 34. For older participants, training seems to have a slightly bigger payoff in terms of financial objectives and job stability. For example, more than half of 55 to 64 year-olds who wanted to increase their income felt satisfied, compared with 40% of those aged 25 to 34. For those whose objective was to keep their job, 79% of older workers were successful compared with 68% of younger ones.

Employer support higher for job-related courses than for programs

Seven in 10 employed adults who took job-related training in 2002 received employer support of some type (see *Data source and definitions*). Full programs require a greater investment on the part of the employer than individual courses and may affect the degree of support. A course can be completed within a relatively short time frame, while a program generally takes longer and costs more. In addition, the cost of replacing an employee absent from their job is much lower for a course than for a program. In fact, employer support was much greater for courses (76%) than for programs (47%). However, support was significantly lower for 55 to 64 year-old employees in job-related courses (68%) than for those aged 25 to 34 (78%).

In order to determine the degree to which selected factors were related to employer support, a logistic regression model was run for 25 to 64 year-old employees with job-related training in 2002. The final model used age, education, household income, occupation, job tenure, union membership, and work schedule (full-time or part-time).

Chart D Doing a better job was the key motivator for all participants regardless of age



Source: Statistics Canada, Adult Education and Training Survey, 2003

Table 4 Factors associated with employer-supported training

	Employer-support	Odds ratios
	%	
Age		
25 to 34	69.9	1.0
35 to 44 (ref)	74.7	1.0
45 to 54	72.6	0.7*
55 to 64	68.0	0.7
Education		
High school or less	72.3	1.2
Postsecondary non-university (ref)	72.6	1.0
University	71.0	0.7**
Household income		
Less than $30,000	52.3	0.6**
$30,000 to $59,999 (ref)	72.3	1.0
$60,000 and over	78.3	1.4**
Occupation		
Managerial, professional	75.4	1.3
Clerical, sales, service (ref)	67.6	1.0
Blue-collar	69.4	0.9
Job tenure		
One year or less	55.3	0.5**
1 to less than 5 years (ref)	75.9	1.0
5 to less than 20 years	76.6	0.9
20 years and over	80.8	1.1
Union coverage		
Union	85.7	3.8**
Non-union (ref)	81.0	1.0
Work schedule		
Full-time	76.8	2.7**
Part-time (ref)	55.9	1.0

* Significantly different from reference group at the 5% level.
** Significantly different from reference group at the 1% level.
Note: Odds relative to reference group (ref).
Source: Statistics Canada, Adult Education and Training Survey, 2003

Older employees and the university educated less likely to receive employer support for training

Relative to the reference group (35 to 44), the odds of receiving employer support for job-related training were significantly lower (0.7) for older employees (45 to 54 and 55 to 64), whereas younger employees (25 to 34) were equally likely to receive support (Table 4).

Those with a university education were significantly less likely to receive support (0.7) than those with some postsecondary, non-university education.

Low household income reduced odds of employer support, high income increased them

Employees with the lowest income (less than $30,000) reported the lowest employer support for training. Household income affected the odds in two ways: Low income (less than $30,000) relative to medium income ($30,000 to $59,999) reduced the odds by almost half (0.6). On the other hand, high income ($60,000 or more) increased the odds nearly 1.5 times.

Job status and union membership associated with employer support

Longer job tenure was generally associated with higher rates of employer support for training. Employees with one year or less were only half as less likely to receive support as those who had been employed for longer (more than one year but less than five).

Work schedule also clearly made a difference. Employers tended to favour full-time employees when it came to providing support for training. Their odds of employer support were more than two and a half times those working part time. The difference is hardly surprising. For one thing, a part-time employee obviously has less time to devote to on-the-job training. Employers may also be concerned about retaining part-timers and consequently be reluctant to invest in training.

For union members, the likelihood of receiving employer support for training was 3.8 times higher than for non-union members. This lends credence to the idea that unions may have indirect effects on training incidence by encouraging employer support (Gilbert 2003).

Training barriers similar for older and younger workers

Barriers to job-related training can be situational (too busy), institutional (tuition costs or inconvenient scheduling), or attitudinal (personal views about learning) (Cross 1981). The 2003 AETS dealt only with situational and institutional barriers.

Among trainees who did not take additional needed or wanted training in 2002, the training rates were similar for the three youngest age groups (46% to 48%) (Chart E). Although the training rate was higher among

55 to 64 year-olds with unmet training needs (36%) than for all 55 to 64 year-old trainees (23%), it still lagged behind other age groups. Older participants do not seem to feel unfairly treated with respect to job-related training opportunities. Indeed, a higher proportion of 25 to 34 year-old participants felt they had unmet training needs (27% versus 19%).

Among those who needed or wanted more training but did not receive it, expense was the most common reason given, being an issue for one-third of 55 to 64 year-olds and close to half of younger participants. The second was being too busy at work, cited by roughly one-third of both the youngest and oldest groups. These two barriers were also the most important in 1997.[7] Equally important (and the third most common) for both older and younger participants was conflict with work schedule, with more than one-third of each age group giving this reason.

Conclusion

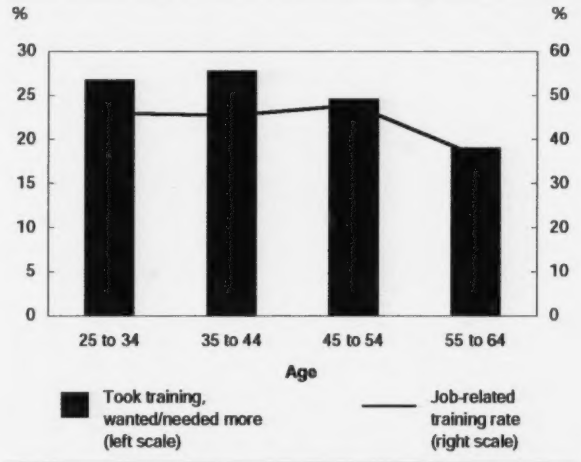
In 2002, fewer older workers (55 to 64) than younger workers (25 to 34) engaged in formal job-related training. One possible explanation for the lower rate among older workers may be found in the 'return-to-investment' hypothesis, which originated in an economic context in the 1960s. According to the theory, education and training can be considered an investment in human capital (Becker 1962), so training at a later age may not yield the same degree of return as at an earlier age—simply because of the shorter period over which the return can be realized.

Another reason may be that older employees simply lack the confidence to initiate or engage in training opportunities because of negative attitudes or stereotypes towards older workers and their ability to learn new skills (Maurer 2001). Another possibility, however, is that older workers do not see the value in investing time in training, given that they may soon be leaving the labour market.

Nevertheless, more older employees took part in job-related training than in 1997, and in addition, they did more of it. Older trainees increased their training hours by nearly 40% between 1997 and 2002 (Peters 2004).

Higher levels of education appear to predispose employees to engage in job-related training. This educational advantage may be due in part to the types of jobs held by employees, which are primarily a product of their education. For example, an investigation

Chart E Job-related training rate relatively stable across ages among those who wanted or needed more training



Source: Statistics Canada, Adult Education and Training Survey, 2003

of the job mobility of low-wage workers found that those with a university education were more likely to have higher paid employment after five years than those with high school education or less (Janz 2004). A greater proportion of older adults may well be involved in job-related training in the future, since the baby-boom generation has generally higher levels of education than previous generations.

For both younger and older employees, higher levels of household income, being employed in the public sector, and working for larger firms increased training rates. In addition, occupation made a difference for younger workers: Professionals and managers had a greater likelihood of job-related training. Being a woman, working full time, and working in a service industry increased the likelihood of job-related training for older workers.

For most participants, improving job performance was the main objective for taking training. In addition, both younger and older participants hoped to increase their income. However, older participants were more concerned about holding on to their jobs, whereas younger trainees were looking to find or change jobs.

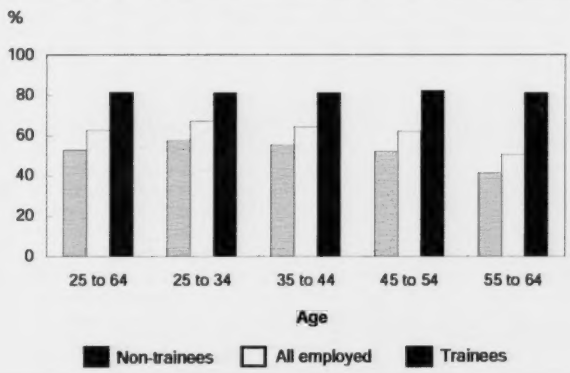
Self-directed learning rates highest among those taking formal job-related training

Formal courses or programs are not the only ways of learning. Another option is self-directed or informal training, which can take different forms (see *Data source and definitions*). Workers were asked about five self-directed activities: seeking advice from someone; using the Internet or computer software; observing someone perform a task; consulting books, manuals or other documents; and self-teaching via different methods.

Nearly two-thirds (63%) of all adult employees engaged in some form of self-directed learning in 2002 (Chart). As with formal training, self-directed learning tended to be less common for older workers, being cited by just over half of those aged 55 to 64 compared with two-thirds of those 25 to 34. Training participants had substantially higher rates of self-directed learning than non-participants across all age groups (82% versus 53% overall). Among non-participants, those aged 55 to 64 had a lower rate (42%) than those aged 25 to 34 (58%).

More than two-thirds of training participants consulted books or manuals, or self-taught using different methods. Older trainees were less likely than those aged 25 to 34 to observe someone perform a task (35% versus 45%). Learning by seeking advice was also less common for older participants (38% versus 51%). Older and younger participants were equally likely to use the Internet, consult books and manuals, and self-teach. However, those 55 to 64 reported lower levels of engagement in all types of self-directed learning.

Self-directed rates by age



Source: Statistics Canada, Adult Education and Training Survey, 2003

The majority of both younger and older participants who desired to improve job performance achieved their goal.

Nearly three-quarters of those who engaged in job-related training in 2002 received employer support (72%). With the growing importance of lifelong learning, employer support may be an important incentive, particularly for older employees. However, older employees appear to have been at a disadvantage compared with younger employees. Whether this was due to negative attitudes on the part of the employer or reluctance on the part of older employees to engage in training is difficult to say. For example, a significantly higher proportion of 25 to 34 year-old participants reported unmet training needs than their counterparts aged 55 to 64. This seems to indicate that older participants have been satisfied with their training opportunities.

Education, household income, job tenure, work schedule and union membership also influenced employer support. Employees with a university education were less likely to receive support than those with only some postsecondary (non-university) education. Lower household income was also associated with a reduced likelihood of employer support. On the other hand, employees with longer tenure tended to be more likely to receive support for training, as were full-time employees, and those who were union members.

Clearly, training opportunities are not equally distributed. Those who are younger and more highly educated, for example, tend to participate in job-related training at a higher rate. However, those who are educationally disadvantaged likely stand to gain more when they are given the opportunity for training. Indeed, although the least educated are less likely to participate in training, they are the most likely to benefit (Myers and Myles 2005).[8]

Perspectives

Notes

1 Variables not significantly associated with the likelihood of engaging in job-related training, such as marital status and union membership, were dropped.

2 These results correspond with findings from other surveys. For example, the 2001 Workplace and Employee Survey found a similar link between level of education and engagement in training, either in the classroom or on the job (Leckie et al. 2001).

3 The relationship between education and training has been established elsewhere. For example, see OECD (2003), de Broucker (1997), Tuijnman and Boudard (2001), Statistics Canada (2001).

4 Household income was used rather than individual earnings since it can be argued that the decision to participate in training can be a household decision for couples. In addition, an earlier model with earnings showed similar results, with the exception of some small differences: a reversal of the pattern of significance by province and also by sector, which was not a significant factor for 55 to 64 year-olds with earnings in the model. Household income was divided into three categories: low (less than $30,000), medium ($30,000 to $59,999), and high ($60,000 or more).

5 Data comparability between 1997 and 2002 may be affected by differences in the way respondents were asked to report job-related training activities. For more information, see Peters (2004).

6 Those in the lowest category took between 1 and 20 hours of training (up to 3 days); those in the medium category, between 21 and 65 hours (3 to 11 days); and those in the highest category, in excess of 65 hours (11 to 260 days), based on a 6-hour training day.

7 Sussman (2002) included both training participants and non-participants, but excluded full-time students. The current study, however, includes participants but excludes non-participants, and includes full-time students who were employed at some point during 2002. In addition, the question that asked about job-related training in 1997 focused on needs rather than both needs and wants as in 2002.

8 This finding was based on self-reported positive outcomes of training.

■ References

Becker, Gary S. 1962. "Investment in human capital: A theoretical analysis." *Journal of Political Economy.* Vol. 70, no. 5, Part 2, p. 9–49.

Bélanger, Paul and Albert Tuijnman. 1997. "The 'silent explosion' of adult learning." In *New Patterns of Adult Learning: A Six-country Comparative Study.* Paul Bélanger and Albert Tuijnman (eds). New York. Elsevier Science Ltd. p. 1–16.

de Broucker, Patrice. 1997. "Job-related education and training: Who has access?" *Education Quarterly Review.* Vol. 4, no. 1. Statistics Canada Catalogue no. 81-003-XIB. p. 7, 10–31. http://www.statcan.ca/english/freepub/81-003-XIB/0019781-003-XIB.pdf (accessed September 26, 2006).

Cross, K. Patricia. 1981. "Why adults participate — and why not." Ch. 4. In *Adults as Learners.* San Francisco/London. Jossey-Bass. p. 81–108.

Gilbert, Lucie. 2003. "Unions and training: A study based on the Adult Education and Training Survey." *Education Quarterly Review.* Vol. 9, no. 1. Statistics Canada Catalogue no. 81-003-XIE. p. 19–33. http://www.statcan.ca/english/freepub/81-003-XIE/0010281-003-XIE.pdf (accessed September 27, 2006).

Janz, Teresa. 2004. *Low-paid Employment and Moving Up: A Closer Look at Full-time, Full-year Workers.* Statistics Canada Catalogue no. 75-F0002-MIE2004009. Ottawa. Income Research Paper series, no. 9. 23 p. http://www.statcan.ca/english/research/75F0002MIE/75F0002MIE2004009.pdf (accessed September 27, 2006).

Leckie, Norm, André Léonard, Julie Turcotte and David Wallace. 2001. *Employer and Employee Perspectives on Human Resource Practices.* Statistics Canada Catalogue no. 71-584-MIE2001001. Ottawa. The Evolving Workplace Series, no. 1. 75 p. http://www.statcan.ca/english/freepub/71-584-MIE/71-584-MIE2001001.pdf (accessed September 27, 2006).

Maurer, Todd J. 2001. "Career-relevant learning and development, worker age, and beliefs about self-efficacy for development." *Journal of Management.* Vol. 27, p. 123–140.

Morissette, René, Grant Schellenberg and Cynthia Silver. 2004. "Retaining older workers." *Perspectives on Labour and Income.* Vol. 5, no. 10. October. Statistics Canada Catalogue no. 75-001-XIE. http://www.statcan.ca/english/freepub/75-001-XIE/11004/high-2.htm (accessed September 27, 2006).

Myers, Karen and John Myles. 2005. *Self-assessed Returns to Adult Education: Life-long Learning and the Educationally Disadvantaged.* Research report W/35. Ottawa. Canadian Policy Research Networks Inc. 40 p.

Organisation for Economic Co-operation and Development (OECD). 2003. *Beyond Rhetoric: Adult Learning Policies and Practices.* Paris. OECD. 253 p.

Peters, Valerie. 2004. *Working and Training: First Results of the 2003 Adult Education and Training Survey.* Statistics Canada Catalogue no. 81-595-MIE2004015. Statistics Canada and Human Resources and Skills Development Canada. Ottawa. Culture, Tourism and the Centre for Education Statistics Research Papers series, no. 15. 60 p. http://www.statcan.ca/english/research/81-595-MIE/81-595-MIE2004015.pdf (accessed September 27, 2006).

Statistics Canada and Human Resources Development Canada (SC–HRDC). 2001. *A Report on Adult Education and Training in Canada: Learning a living.* Statistics Canada Catalogue no. 81-586-XIE. Ottawa. 98 p. http://www.statcan.ca/english/freepub/81-586-XIE/81-586-XIE1998001.pdf (accessed September 27, 2006).

Sussman, Deborah. 2002. "Barriers to job-related training." *Perspectives on Labour and Income.* Vol. 3, no. 3 (March). Statistics Canada Catalogue no. 75-001-XIE. http://www.statcan.ca/english/freepub/75-001-XIE/0030275-001-XIE.html (accessed September 27, 2006).

Tuijnman, Albert and Emmanuel Boudard. 2001. *Adult Education Participation in North America: International Perspectives.* Statistics Canada Catalogue no. 89-574-XIE. Ottawa. 79 p. http://www.statcan.ca/english/freepub/89-574-XIE/89-574-XIE1998001.pdf (accessed September 27, 2006).